

-26-

WHAT IS CLAIMED IS

1. A formulation for targeting an infectious agent which acquires a HLA-DR host membrane protein during its life cycle or a HLA-DR expressing host cell or both, said
5 formulation comprising a ligand capable of binding to said host membrane protein, said ligand being coupled to a lipid-comprising vesicle.
2. A formulation according to claim 1 wherein lipid-comprising vesicle is a liposome.
10
3. A formulation according to claim 2 wherein said liposome comprises a mixture of diacylphosphatidylcholine and diacylphosphatidylglycerol in a molar ratio ranging between 10:1 and 1:1, wherein the acyl chains are either saturated or unsaturated and have between 14 and 18 carbon atoms in length.
15
4. A formulation according to claim 3, wherein said lipid component comprises a polyethyleneglycol derivative of diacylphosphatidylethanolamine.
5. A formulation according to claim 4, wherein the polyethyleneglycol has a
20 molecular weight comprises between about 500 and 5000 daltons.
6. A formulation according to claim 3, wherein the molar ratio is 10:3.
7. A formulation according to claim 4 or 5, wherein said lipid component
25 comprises a mixture of diacylphosphatidylcholine:diacylphosphatidylglycerol:diacylphosphatidylethanol-amine-polyethyleneglycol in a molar ratio of 10.3:0.1-3.
8. A formulation according to claim 2, 3 or 6, wherein said lipid component comprises a mixture of dipalmitoylphosphatidylcholine:dipalmitoylphosphatidylglycerol in a
30 molar ratio of 10:3 or distearoylphosphatidylcholine:distearoylphosphatidylglycerol in a molar ratio of 10:3.
9. A formulation according to claim 2, 3, 4, 5 or 7, wherein said lipid component comprises a mixture of dipalmitoylphosphatidylcholine:dipalmitoylphosphatidylglycerol:
35 dipalmitoylphosphatidylethanolamine-polyethyleneglycol in a molar ratio of 10.3:0.33 or dipalmitoylphosphatidylcholine:dipalmitoylphosphatidylglycerol:distearoylphosphatidylethanolamine-polyethyleneglycol in a molar ratio of 10.3:0.83.

ART 34 AMDT

-27-

10. A formulation according to any one of claims 1 to 9, wherein said host membrane protein further comprises one or more proteins selected from a histocompatibility complex protein, a membrane ATPase, thy-1, an interleukin receptor, annexin II, CD3 (T3), CD4 (T4), CD5 (T1), CD6 (T12), CD8 (T8), CD11a (LFA-1), CD11b (Mac-1), CD11c (gp150,95), CD1 (Lewis X), CD18, CD19, CD25 (Tac), CD30 (Ki-1), CD43 (leukosialin, sialophorin), CD44 (Pgp-1), CD48 (Blast-1), CD54 (ICAM-1), CD55 (DAF), CD59 (protectin, Mac inhibitor), CD63, CD71 (transferrin receptor), CDw108(GR2), cyclophilin A, cytoskeletal proteins and β_2 -microglobulin
- 10 11. A formulation according to any one of claims 1 to 10, wherein said ligand is an antibody molecule selected from a whole antibody and an antibody fragment.
- 15 12. A formulation according to any one of claims 1 to 11, which comprises a drug effective against a disease or against the symptoms of a disease caused by said infectious agent.
- 20 13. A formulation according to any one of claims 1 to 11, wherein said host cell is a lymphoid cell or a cell of the reticuloendothelial system.
- 25 14. A formulation according to claim 12, wherein said host cell is a lymphoid cell or a cell of the reticuloendothelial system.
- 15 A formulation according to claim 13, wherein said infectious agent is HIV.
- 25 16. A formulation according to claim 14, wherein said infectious agent is HIV.
- 30 17. A formulation according to claim 13 or 15, wherein said host membrane protein further comprises one or more of CD4, MHC-I or CD54.
- 30 18 A formulation according to claim 14 or 16, wherein said host membrane protein further comprises one or more of CD4, MHC-I or CD54.
- 35 19. A formulation according to claim 12, 14, 16 or 18 wherein said drug is selected from AZT, ddI, ddC, 3TC, indinavir, saquinavir, ritonavir, nelfinavir, ganciclovir, foscarnet, ribavirin, amphotericin B and nystatin A.
20. A formulation according to any one of claims 1 to 19, wherein said ligand is an anti-Fab' antibody fragment directed against said host membrane protein.

-28-

21. The use of a formulation according to any one of claims 1 to 20 for treating or preventing a disease caused by said infectious agent.

5 22. The use of a ligand to a host membrane protein which is acquired by an infectious agent during its life cycle in the making of a formulation for targeting said infectious agent and its host cell, said ligand being coupled to a lipid-comprising vesicle and said protein does not consist of CD4 or of a HLA class 1 protein.

10 23. The use as defined in claim 22, wherein said formulation is defined in any one of claims 1 to 20.

2000-06-20 11:37

ART 34 AMDT